International Journal of Advances in Engineering and Management (IJAEM)
Volume 3, Issue 7 July 2021, pp: 1643-1644 www.ijaem.net ISSN: 2395-5252

Coconut Dehusker

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Submitted: 01-07-2021 Revised: 10-07-2021 Accepted: 13-07-2021

ABSTRACT: Coconut is an important ingredient which is widely used for cooking and extraction of oil. Coconut is to be dehusked in order to achieve this. As the name suggest coconut dehusker is a machine which is used to dehusk the coconut. People use sharp tool or spikes for dehusking the coconut.

The present work involved the design, development and testing of manually operated coconut dehusker which can overcome the drawbacks of present manual machines. The dehusking machine can remove husk from the coconut in an easy way and also time consumption is very less compared to the normal machine. This machine consists of four cutting blades so that when the lever is pressed the cutting blades moves in four direction which dehusks the coconut. The model consists of springs, cutting blades and taper. The machine can dehusk the coconut in a single stroke which makes it more advantageous. It can be operated by unskilled operators with little time consumption.

KEYWORDS: Dehusk, Stroke, Springs, Taper Production ,maintenance and repair. The model can dehusk the coconut in one single step with minimal time consumption.

I. INTRODUCTION

Coconut is one of the main ingredients in our houses and for the industries making mats and ropes with the help of husk. Coconut de-husking is the most fundamental issue in terms of finding labour and improving productivity. Even though it is used in plenty there is no machine that is possible of removing the husk safer. The machines available in the market are not user friendly.

The main aim of the project is to reduce the human efforts and to increase the rate of production. This machine takes into consideration the dangers, hazards and risks involved in de-husking the coconut which will be efficient, productive, environmentally friendly, less labour, easy to use and most importantly cost effective in Production ,maintenance and repair. The model can dehusk the coconut in one single step with minimal time consumption.

II. METHODOLOGY

This coconut dehusking machine aims to reduce the workforce, increase the profit and reduce the time consumption. It is a simple machine in which the taper pushes the blades into four diections which make the coconut dehusked.

2.1 CUTTING TOOL

Cutting tools are made with the help of angle bars. One end of the tool is made sharp in-order to penetrate through the coconut. The other end is slightly chamfered for the perfect fit of taper.

Figure 1- Cutting Tool

2.2 POLISHED RODS

Polished rods are very accurately finished rods Which are best suitble for the movement through hole .

Figure 2- Polished rod

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2.3 SPRINGS

A spring is an elastic object that stores mechanical energy. Springs are typically made of spring steel. Compression Springs are open-coil helical springs wound or constructed to oppose compression along the axis of wind. Compression springs offer resistance to linear compressing forces (push) and are in fact one of the most efficient energy storage devices available.

Figure 3 –Spring

2.4 TAPER

Taper is made from mild steel plates.Mildsteel is a type of carbon steel with a low amount of carbon-it Is also known as "low carbon steel" this mild steel Plate is cut into required dimensions and are welded to Form a square pyramid.

Figure 4- Taper

III. MODELLING

Figure 5 – Drawing in Fusion 360

IV. RESULT

The project coconut dehusking machine was able to dehusk the coconut successfully without any damage. It reduces human effort and time consumption. Also it can be managed by any unskilled person.

V. CONCLUSION

The performance of the newly designed coconut dehusker was studied under various types of coconut. Introducing this machine in the farm areas can reduce the risk involved in the use of spikes in dehusking the coconut and also eliminates the skilled manpower required for dehusking the coconuts. The machine can also be integrated along with the further processing steps of the nuts such as the production of copra. It is in this light that this study was undertaken to develop a low cost, workable, and coconut dehusker that can be used even at remote coconut farms in the country.

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